CLAIMS

1/ A method of manufacturing surge arrestors, the method being of the type comprising the steps consisting in:

· making a stack of varistors (10); and

· forming a coating (40) of composite material on the stack of varistors (10);

the method being characterized by the fact that:

· between the steps of making the stack and forming the coating of composite material (40), the method includes the step of depositing a bead (30) of flexible, adhesive, and dielectric material on the previously-formed stack in register with the various interfaces between each adjacent pair of varistors.

2/ A method according to claim 1, characterized by the fact that the beads (30) of flexible, adhesive, and dielectric material are made on the basis of an elastomer or a gel, preferably of silicone material.

3/ A method according to claim 1 or claim 2, characterized by the fact that the material constituting the beads (30) is adapted to eliminate all pockets of air from the interfaces between each adjacent pair of varistors (10), to prevent material penetrating into said interfaces, and to provide elastic bonding between the stack of varistors (10) and the coating (40) of composite material.

4/ A method according to any one of claims 1 to 3, characterized by the fact that each bead (30) has a typical width of 5 mm and a thickness of less than 5 mm.

5/ A method according to any one of claims 1 to 4, characterized by the fact that the material constituting the beads (30) has no acetic acid.

6/ A method according to any one of claims 1 to 5, characterized by the fact that it further comprises the steps consisting in depositing an outer envelope (60) on the coating (40) of composite material and using said outer envelope (60) as a mold for shaping the body of the

arrestor by a radial compression effect during a polymerization step.

7/ A method according to claim 6, characterized by the fact that the outer envelope (60) possesses annular fins.

8/ A method according to any one of claims 1 to 7, characterized by the fact that it further comprises the step consisting in depositing beads of adhesive/sealing agent (50) on the coating of composite material (40) prior to installing the outer envelope (60).

9/ A method according to claim 8, characterized by the fact that the beads (50) of adhesive/sealing agent deposited on the coating of composite material (40) are made of silicone mastic.

10/ A method according to claim 8 or claim 9, characterized by the fact that the beads (50) of adhesive/sealing agent deposited on the coating of composite material (40) are shaped as rings.

11/ A method according to any one of claims 1 to 10, characterized by the fact that the coating of composite material (40) is wound helically.

12/ A method according to any one of claims 1 to 11, characterized by the fact that the coating of composite material (40) is made by helically winding a preimpregnated woven tape with overlap of 50%.

13/ A method according to any one of claims 1 to 12, characterized by the fact that the coating of composite material (40) has rings of preimpregnated woven tape deposited in register with the interfaces between adjacent pairs of varistors (10).

14/ A method according to claim 13, characterized by the fact that the arrestor also has an envelope deposited on the coating of composite material (40) to reinforce the dielectric behavior of the arrestor.

15/ A method according to any one of claims 1 to 14, characterized by the fact that the coating of composite material (40) preferably based on glass fibers and epoxy

resin, has a resin content lying in the range one-third to one-half by weight.

16/ A method according to any one of claims 1 to 15, characterized by the fact that the coating of composite material (40) is made under axial compression of the stack of varistors (10).

17/ A method according to any one of claims 1 to 16, characterized by the fact that the varistors (10) are not enameled.

18/ A method according to any one of claims 1 to 16, characterized by the fact that the varistors (10) are coated in a fine protective film of a lead-free enamel.

19/ A surge arrestor of the type comprising a stack of varistors (10) and a coating of composite material (40), the arrestor being characterized by the fact that it further comprises beads (30) of flexible, adhesive, and dielectric material in register with the various interfaces between each adjacent pair of varistors (10).

20/ An arrestor according to claim 19, characterized by the fact that the beads (30) of flexible, adhesive, and dielectric material are based on silicone material.

21/ An arrestor according to claim 19 or claim 20, characterized by the fact that it further comprises an outer envelope (60) having annular fins.

22/ An arrestor according to any one of claims 19 to 21, characterized by the fact that it further comprises beads (50) of an adhesive/sealing agent between the coating of composite material (40) and an outer envelope (60).

23/ An arrestor according to claim 22, characterized by the fact that the beads (50) of adhesive/sealing agent deposited on the coating of composite material (40) are made of silicone mastic.

24/ An arrestor according to any one of claims 19 to 23, characterized by the fact that the coating of composite material (40) is made by helically winding a preimpregnated woven tape with overlap of 50%.

25/ An arrestor according to any one of claims 19 to 24, characterized by the fact that the coating of composite material (40) has a resin content lying in the range one-third to one-half by weight.

26/ An arrestor according to any one of claims 19 to 25, characterized by the fact that the varistors (10) are not enameled.

27/ An arrestor according to any one of claims 19 to 25, characterized by the fact that the varistors (10) are coated in a fine protective film of lead-free enamel.